

### **REMARKS**

Claims 1-5 are all the claims pending in the application. Claims 4 and 5 have been withdrawn from consideration by the Examiner. Reconsideration and allowance of all the claims are respectfully requested in view of the following remarks.

#### **Claim Rejections - 35 U.S.C. § 102**

The Examiner rejected claims 1 and 3 under §102(b) as being anticipated by US Patent 5,539,763 to Takemi et al. (hereinafter Takemi). Applicants respectfully traverse this rejection because Takemi fails to disclose all of the elements as set forth and arranged in Applicants' claims.

Claim 1 sets forth "[a] DFB type semiconductor laser device comprising:  
a laser part including an active layer and a clad layer;  
a grating layer mounted on said clad layer and having periodic apertures;  
an insulating layer mounted on said grating layer, said insulating layer including at least one elongated gap extending in a direction transverse to the grating of said grating layer; and  
a metal electrode layer mounted on said insulating layer so as to contact through said apertures of said grating layer with said clad layer within said gap."

For example, as shown in Fig. 2, one illustrative, non-limiting embodiment of the present invention according to claim 1 features the following such points:

- i) that a grating layer (7a) is mounted on a clad layer (6);
- ii) that an insulating layer (8) having a gap is mounted on the grating layer (7a); and
- iii) that a metal electrode layer (20) is mounted on the insulating layer (8).

It is noted that the metal electrode layer (20) contacts through apertures of the grating layer (7a) with the clad layer (6).

In contrast to that set forth in claim 1, Takemi mentions—with respect to the "Embodiment 1"—that a p type InP cap layer (108a) is disposed on a p-type second upper cladding layer (106a) so as to bury a p-type InGaAsP light guide layer (107) formed as a diffraction grating (column 11, lines 57 to 59). Similar recitations appear on lines 51 to 54 of column 17 with respect to the "Embodiment 2", and on lines 43 to 46 on column 21 with respect

to the “Embodiment 5”. In “Embodiment 3”, and “Embodiment 4”, a diffraction grating 157, 177 is disposed between a substrate 151, 171 and lower cladding 152, 172. Accordingly, in embodiments 3 and 4, the grating is buried even further away from electrode 162, 182. In “Embodiment 6”, there is no diffraction grating disclosed.

Thus, Takami’s metal electrode layer (112a, 112b, 132a, 132b ...) does not contact either the grating layer (107, 127 ...) or the clad layer (106, 126a ...) disposed under the grating layer.

For at least any of the above reasons, Takami fails to anticipate Applicants’ claim 1. Likewise, this reference fails to anticipate dependent claim 3.

### **Claim Rejections - 35 U.S.C. § 103**

The Examiner rejected claim 2 under §103(a) as being unpatentable over Takemi in view of US Patent 5,982,804 to Chen et al. (hereinafter Chen). Applicants respectfully traverse this rejection because the references fail to teach or suggest all the elements as set forth in Applicants’ claim.


The Examiner notes that Takemi fails to disclose a grating layer composed of InGaAs. As noted above, Takemi further fails to disclose a metal electrode layer mounted on an insulating layer so as to contact through apertures of a grating layer with a clad layer. The Examiner cites Chen as teaching a grating layer composed of InGaAs. But Chen fails to teach or suggest a metal electrode layer mounted on an insulating layer so as to contact through apertures of a grating layer with a clad layer. Therefore, for the sake of argument, even assuming that one of ordinary skill in the art were motivated to combine Takemi and Chen as suggested by the Examiner, any such combination would still not teach or suggest all the elements as set forth in Applicants’ claim.

### **Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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